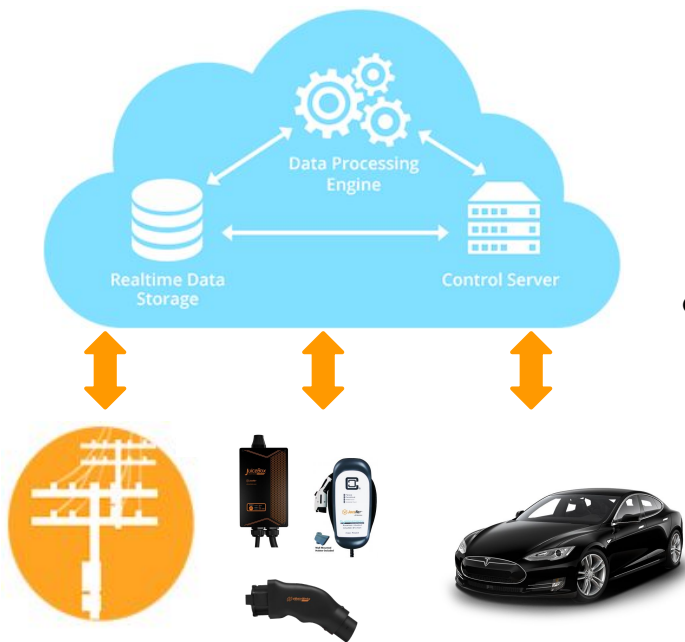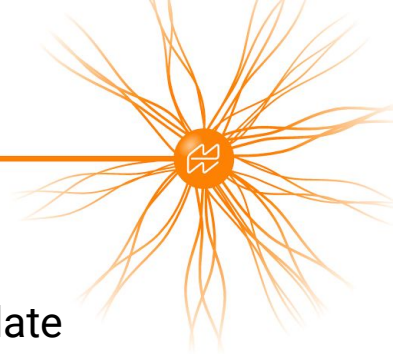# CPUC ADVANCED RATE DESIGN FORUM

Prices to Devices:
Load Management Technologies and Their Interaction with Dynamic and Real Rates

December 12, 2017

David Schlosberg
VP, Energy Market Operations

eMotorWerks Overview

- **Strategy** - deploy JuiceNet-enabled charging systems at scale
  - 25,000+ installations globally to date
  - Across all EV load access points
  - Leading IoT experience for EV owners/operators
  - Embed intelligent load control capabilities

- **Vision** - hardware, software & services business model for EV charging to:
  - Avoid high-cost peak generation
  - Defer costly grid upgrades
  - Improve grid reliability
  - Integrate more renewables into the grid

- **Execution** - as an Enel Group Company

eMotorWerks
SMART [GRID] EV CHARGING

Smart Grid-Enabled EVSE OEM Ecosystem
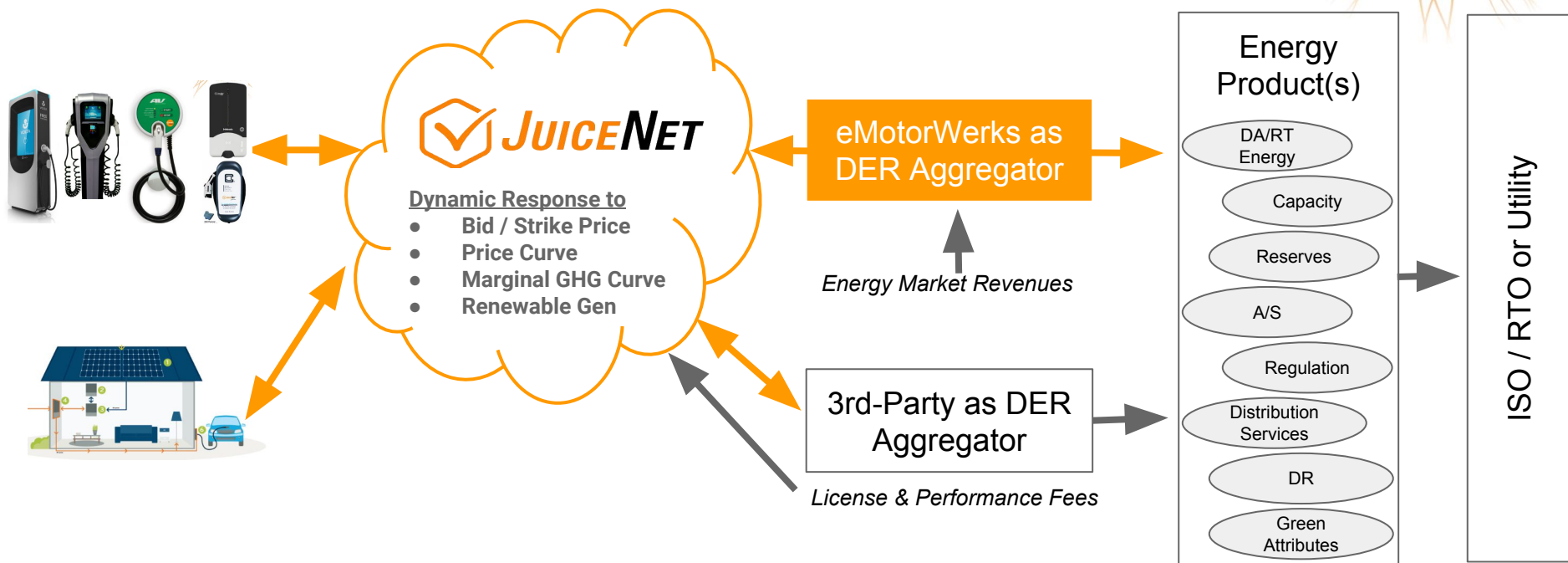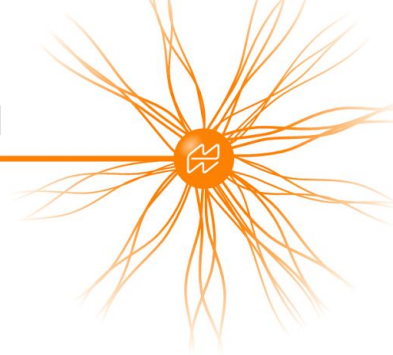

JuiceBox

JuicePlug

JuiceTower

eMotorWerks Residential, Workplace
& Multi-family Products

JuiceNet OEM Residential & Public EVSEs
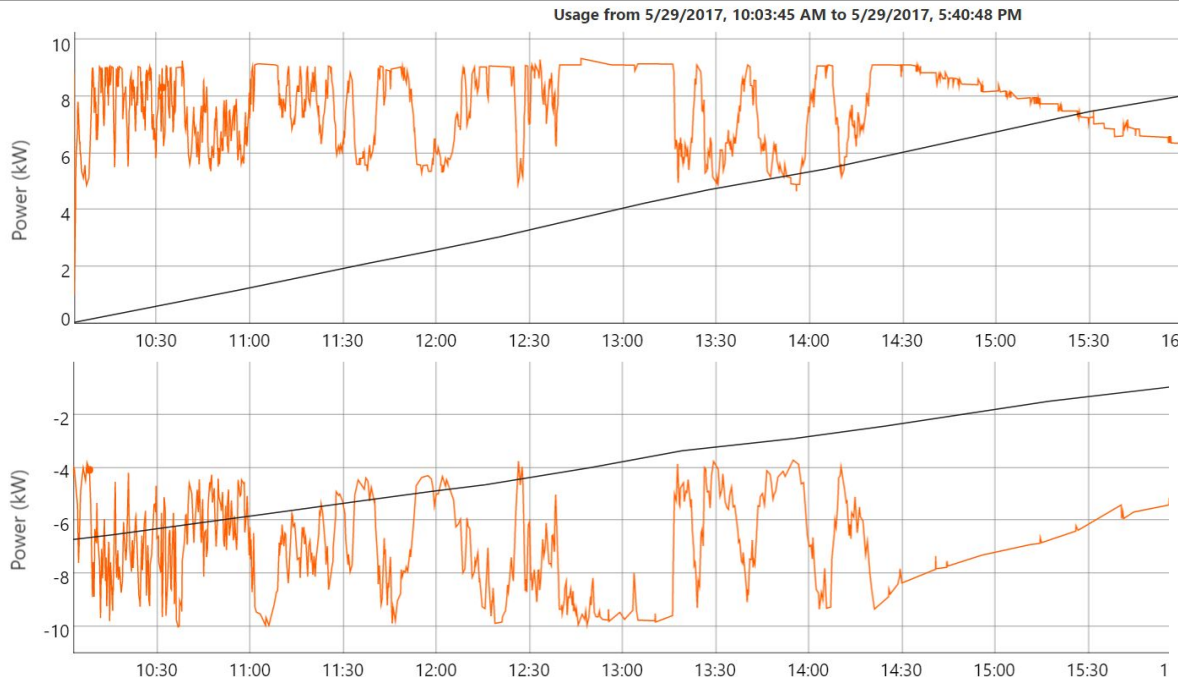(via embedded smart charging IoT components & software)

eMotorWerks
SMART [GRID] EV CHARGING

1ˢᵗ & 3ʳᵈ Party DER Provider

JUICENET

Dynamic Response to
- **Bid / Strike Price**
- **Price Curve**
- **Marginal GHG Curve**
- **Renewable Gen**

eMotorWerks as DER Aggregator

Energy Market Revenues

3rd-Party as DER Aggregator

License & Performance Fees

Energy Product(s)
- DA/RT Energy
- Capacity
- Reserves
- A/S
- Regulation
- Distribution Services
- DR
- Green Attributes

ISO / RTO or Utility

eMotorWerks
SMART [GRID] EV CHARGING

Real Time Response: Solar Self-Consumption

EV Charging Load (a 9 kW car, allowed to draw [Solar output + 1.7kW])

Usage from 5/29/2017, 10:03:45 AM to 5/29/2017, 5:40:48 PM

Linked Solar Generation (a 10 kW panel 1.5 miles away)

eMotorWerks
SMART [GRID] EV CHARGING